



Pregnant Women and Infants

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TECHNICAL NOTES

- Table 5. Excludes births to mothers whose age was not specified.
- Table 7-12. Rates and percentages are based on the births for which maternal and infant characteristics depicted in the table are known. For example, the percent of births to mothers who smoked during pregnancy (Table 12) is based on births for which maternal smoking status was known.
- Table 8. No rates are shown for births to mothers less than 15 years old, nor are births to these mother reflected in the total.
- Table 9. The “Other” race category in these *Profiles* is limited to births to mothers whose race was not specified.
- Table 10. Mothers with “less than high school” education are those who completed less than 12 years of schooling.

DEMOGRAPHICS OF WOMEN OF CHILDBEARING AGE

Table 1. Population of Women Ages 15-44, 1990-1994

Age	1990	1991	1992	1993	1994
15-19	16,694	16,250	16,280	16,960	18,100
20-24	15,607	15,720	15,480	15,870	16,370
25-29	18,043	17,360	16,820	15,820	15,640
30-34	19,563	19,700	19,640	19,170	18,150
35-39	18,152	18,670	19,030	19,470	19,550
40-44	15,783	16,960	17,130	17,730	18,480
Total	103,842	104,660	104,380	105,020	106,290

Source: 1990 data are from the 1990 Census of Population and Housing; 1991-1994 estimates are from the Wisconsin Center for Health Statistics.

The number of Wisconsin women in their childbearing years (ages 15-44) has increased since 1990. While most (62) counties have experienced net increases, 9 counties have had net declines in the number of women ages 15-44.

Table 2. Poverty Status of Women Ages 18-44, 1989

Age	Percent in Poverty		Region is:		
	Region	State	Low	Average	High
18-24	23.1	23.8		x	
25-44	10.8	9.7		x	
Total 18-44	13.5	13.0		x	

Source: 1990 Census of Population and Housing.

Note: Poverty is defined by the federal government and measured by household income and size. The poverty percentages in the region are compared to the distribution of poverty for the state's 72 counties. A percentage is labeled "low" if it is # 14.8 for age group 18-24; # 8.1 for age group 25-44; # 10.1 for age group 18-44; or "high" if it is \$ 28.4 for age group 18-24; \$ 15.2 for age group 25-44; \$ 16.3 for age group 18-44.

In half of Wisconsin counties, between 11 and 16 percent of women ages 18-44 had incomes below poverty, according to the 1990 U.S. Census.

BIRTHS AND FERTILITY RATES

Table 3. Total Births and Birth Rates, 1990-1994

Year	Number of Births	Crude Birth Rate	General Fertility Rate	Teen Birth Rate
1990	6,531	13.4	62.9	34.1
1991	6,488	13.2	62.0	37.1
1992	6,579	13.3	63.0	38.0
1993	6,440	12.9	61.3	36.7
1994	6,594	13.1	62.0	36.0

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: The crude birth rate (CBR) is defined as the number of births in a given year divided by the number of people in the population (per 1,000). The general fertility rate (GFR) is defined as the number of births in a given year divided by the population of women ages 15-44 (per 1,000). The teen birth rate (TBR) is defined as the number of births to teens 15-19 divided by the population of females ages 15-19 (per 1,000).

Since 1990, annual declines have occurred statewide in total births, the crude birth rate and the general fertility rate. The Wisconsin teen birth rate has ranged between a high of 44 in 1991 and a low of 39 in 1994.

Table 4. Comparison of Birth Rates, 1994

	Birth Rate:		Region is:		
	Region	State	Low	Average	High
Crude Birth Rate	13.1	13.4			x
General Fertility Rate	62.0	59.9		x	
Teen Birth Rate	36.0	38.8		x	

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: The birth rates in the region are compared to the distribution of birth rates for the state's 72 counties. A rate is labeled "low" if it is CBR # 11.3; GFR # 54.3; TBR # 26.0; or "high" if it is CBR \$ 13.1; GFR \$ 64.1; TBR \$ 46.5.

In 54 counties, at least 20 births occurred in which the mother was a teen (aged 19 or younger). One-fourth of the counties had a 1994 teen birth rate of 26 per 1,000 or below (the lowest quartile). Another fourth had a rate of 46 per 1,000 or higher (the highest quartile).

Table 5. Comparison of Age-Specific Birth Rates, 1992-1994 Averages

Age	Average Annual Number of Births	Birth Rate:		Region is:		
		Region	State	Low	Average	High
<15	9	---	---	---	---	---
15-19	631	36.9	40.6		x	
15-17	194	18.5	23.6		x	
18-19	437	65.6	67.1		x	
20-34	5,306	104.1	97.2		x	
35+	591	15.9	17.7		x	
Total	6,536	62.0	61.0			

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 women in the age group. The birth rates in the region are compared to the distribution of birth rates for the state's 72 counties. A rate is labeled "low" if it is # 26.0 for ages 15-19; # 12.6 for ages 15-17; # 47.4 for ages 18-19; # 98.5 for ages 20-34; # 13.5 for ages 35 and above; or "high" if it is \$ 44.6 for ages 15-19; \$ 24.9 for ages 15-17; \$ 79.5 for ages 18-19; \$ 111.3 for ages 20-34; \$ 17.7 for ages 35 and above.

Statewide, most births (79 percent in 1994) are to women in their twenties and early thirties. In counties with relatively high birth rates for this age group, the rates ranged from 111 to 325 (per 1,000 women aged 20-34).

Table 6. Age-Specific Birth Rates, Three-Year Averages

Age	1990-1992	1991-1993	1992-1994
15-19	36.4	37.3	36.9
15-17	18.2	18.4	18.5
18-19	65.6	67.2	65.6
20-34	102.7	102.7	104.1
35+	14.9	15.2	15.9

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 women in the age group.

Wisconsin birth rates have declined since 1990 for women in all age groups except those age 30 and above.

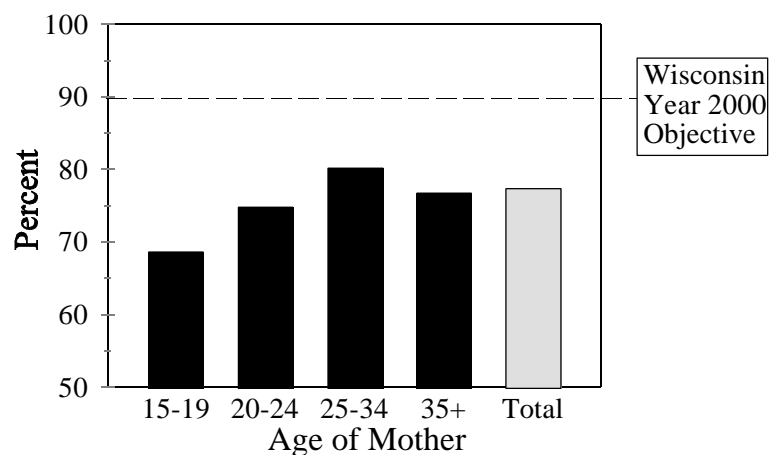
MATERNAL AND INFANT CHARACTERISTICS

Table 7. First Prenatal Care Visit and Low Birthweight, 1990-1994

Year	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
	N	%	N	%	N	%
1990	5,204	79.8	252	3.9	332	5.1
1991	5,152	79.6	224	3.5	309	4.8
1992	5,097	77.7	208	3.2	308	4.7
1993	5,138	80.0	183	2.9	373	5.8
1994	5,079	80.5	207	3.3	373	5.9

Source: Birth certificates, Wisconsin Center for Health Statistics.

In relatively small proportions of Wisconsin births each year, prenatal care was begun during the third trimester or not at all.

Figure 1. Percent of Women Obtaining First-Trimester Prenatal Care, 1994

Source: Birth certificates, Wisconsin Center for Health Statistics.

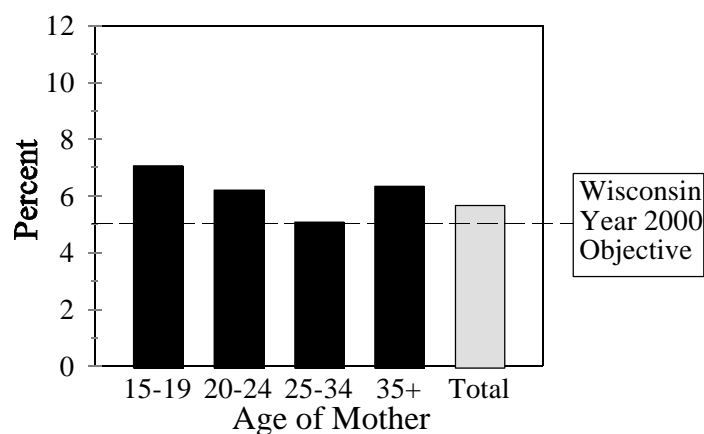
Since 1990, the proportion of Wisconsin women who received first-trimester prenatal care has been 82 or 83 percent each year.

Table 8. First Prenatal Care Visit and Low Birthweight by Age of Mother, 1994

Age	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
15-19	651	444	68.6	47	7.2	46	7.1
20-24	1,613	1,200	74.8	53	3.3	100	6.2
25-34	3,693	2,952	80.2	83	2.3	187	5.1
35+	631	478	76.7	24	3.8	40	6.3
Total	6,588	5,074	77.3	207	3.2	373	5.7

Source: Birth certificates, Wisconsin Center for Health Statistics.

Statewide, late or no prenatal care is generally more prevalent among very young women who give birth than among older women. Infants born to teenagers are also more likely to have a birthweight less than 2,500 grams (5.5 pounds).

Figure 2. Percent of Births with Low Birthweight (<2500 Grams), 1994

Source: Birth certificates, Wisconsin Center for Health Statistics.

In 1994, a total of 4,358 infants (6.4 percent of live births) were born in Wisconsin with low birthweight. Low birthweight occurred most frequently among births to teens (9 percent of all births in the age group); women age 35 and older had the second highest proportion (almost 7 percent).

Table 9. First Prenatal Care Visit and Low Birthweight by Race/Ethnicity of Mother, 1994

Race/ Ethnicity	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
White	5,817	4,851	83.7	147	2.5	338	5.8
Black	16	---	---	---	---	---	---
Am. Indian	192	101	52.9	23	12.0	9	4.7
Hispanic	33	20	60.6	5	15.2	3	9.1
Asian	277	97	35.1	29	10.5	19	6.9
Other	4	---	---	---	---	---	---

In 1994, statewide there were 56,451 births to white women, 6,812 births to African-American women, 2,398 births to Hispanic women, 1,839 births to Asian women (of which 1,230 births were to Laotian/Hmong women), and 750 births to American Indian women.

Source: Birth certificates, Wisconsin Center for Health Statistics.

Note: All live births were classified into mutually exclusive categories: non-Hispanic white, non-Hispanic black, Hispanic, non-Hispanic Asian, non-Hispanic American Indian, non-Hispanic other. Characteristics are not shown for fewer than 20 births.

Table 10. First Prenatal Care Visit and Low Birthweight by Education of Mother, 1994

Years of Education	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
Less than High School	898	517	57.7	88	9.8	70	7.8
High School	2,540	2,044	80.9	70	2.8	164	6.5
More than High School	2,886	2,506	87.2	49	1.7	138	4.8

Women with higher levels of education are more likely to receive prenatal care during the first trimester of pregnancy; their infants are also much less likely to have low birthweight.

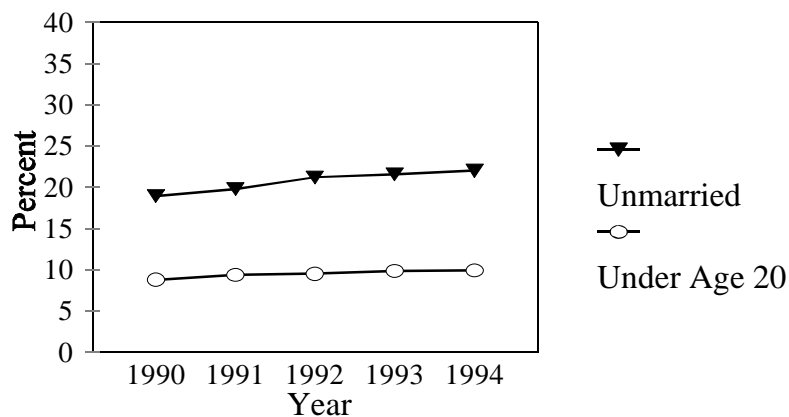
Source: Birth certificates, Wisconsin Center for Health Statistics.

Table 11. Births with Selected Maternal Characteristics, 1990-1994

Year	First Birth		Unmarried		< 12 Years Education		Smoked during Pregnancy	
	N	%	N	%	N	%	N	%
1990	2,306	35.4	1,237	18.9	933	14.3	1,513	23.4
1991	2,350	36.3	1,281	19.7	1,000	15.4	1,488	23.2
1992	2,423	36.9	1,392	21.2	987	15.0	1,560	24.0
1993	2,464	38.4	1,389	21.6	941	14.6	1,435	22.5
1994	2,462	39.0	1,393	22.0	898	14.2	1,343	21.4

Source: Birth certificates, Wisconsin Center for Health Statistics.

The proportion of Wisconsin women who smoke during pregnancy has declined about 1 percentage point annually since 1990.

Figure 3. Percent of Births to Teens (<20) and Unmarried Women, 1994

Source: Birth certificates, Wisconsin Center for Health Statistics.

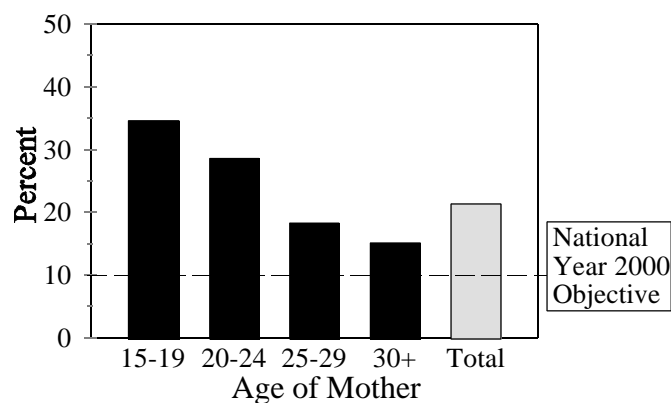
The long-term increase in the proportion of births to unmarried mothers continued during the 1990s. Infants born to unmarried women represented 24 percent of all Wisconsin births in 1990; by 1994, they were 27 percent of all births.

Table 12. Births with Selected Maternal Characteristics by Age, 1994

Age	Unmarried		<12 Years Education		Smoked during Pregnancy	
	N	%	N	%	N	%
15-19	451	72.0	322	51.5	215	34.6
20-24	491	31.4	231	14.8	442	28.6
25-29	240	11.9	157	7.8	366	18.2
30+	207	9.8	184	8.7	319	15.1

Source: Birth certificates, Wisconsin Center for Health Statistics.

The proportion of infants born to unmarried women was 25 percent or greater in one-fourth of Wisconsin counties. In most counties, the proportion of nonmarital births was higher among younger women.

Figure 4. Percent of Women Who Smoked During Pregnancy as a Percentage of All Live Births, 1994

Source: Birth certificates, Wisconsin Center for Health Statistics.

In general, older women are less likely to smoke during pregnancy than younger women. In 1994, 27 percent of Wisconsin teens ages 15-19 who gave birth smoked during their pregnancies, compared with 15 percent of women ages 30 and older.

**Table 13. Reported Pregnancies and Births, 1992-94
Annual Average**

Age	Reported Pregnancies	Number of Births
Less than 20	808	639
20+	6,497	5,897
Total	7,306	6,536

Source: Birth certificates, reported induced abortions and reported fetal deaths, Wisconsin Center for Health Statistics.

Note: The number of reported pregnancies is the sum of the number of live births, reported fetal deaths, and reported induced abortions. The number of reported pregnancies underestimates the actual number of pregnancies because it does not include miscarriages. Pregnancies from border counties may also be underestimated because of limited reporting by out-of-state facilities.

The proportion of pregnancies that result in a live birth is generally higher for women over 20 than for younger women.

Table 14. Selected Factors Related to Infant Mortality, 1994

Risk	Percent of Births:		Region is:		
	Region	State	Low	Average	High
Low Birthweight	5.9	6.4		x	
Mother Age Less than 20	9.9	10.3		x	
Prenatal Care:					
Third Trimester or None	3.3	3.5		x	
Fewer than 5 Prenatal Visits	4.5	4.1		x	
5-9 Prenatal Visits	27.3	18.5		x	

Source: Birth certificates, Wisconsin Center for Health Statistics.

Note: The percentage of a given risk characteristic in the region is compared to the percent distribution of that characteristic for the state's 72 counties. A percentage is labeled "low" if it is # 4.6 for low birthweight; # 7.5 for mother under age 20; # 2.1 for third trimester or no prenatal care; # 2.2 for fewer than 5 prenatal care visits; # 15.1 for 5 to 9 prenatal care visits; or "high" if it is \$ 6.1 for low birthweight; \$ 11.5 for mother under age 20; \$ 4.3 for third trimester or no prenatal care; \$ 5.6 for fewer than 5 prenatal care visits; \$ 28.6 for 5 to 9 prenatal care visits.

In Wisconsin, 81.4 percent of births were to mothers with 10 or more prenatal care visits.

INFANT MORTALITY

Table 15. Number of Infant Deaths, 1990-1994

Year	Neonatal Deaths	Postneonatal Deaths	Total Infant Deaths
1990	34	27	61
1991	31	15	46
1992	23	16	39
1993	29	25	54
1994	32	18	50

Source: Death certificates, Wisconsin Center for Health Statistics.

Note: Neonatal deaths are those that occurred at less than four weeks (28 days) of age. Postneonatal deaths are those that occurred between four weeks and one year of age.

There were 541 infant deaths in Wisconsin in 1994, representing a statewide infant mortality rate of 7.9 deaths per 1,000 births. Most (60 percent) infant deaths occurred within the first 4 weeks of life, the neonatal period.

Table 16. Five-Year Average Infant Mortality, 1990-1994

	Average Annual Number of Deaths	Infant Mortality Rate: Region	State	Low	Region is: Average	High
Total Infant	50.0	7.7	8.0		x	
Neonatal	29.8	4.6	4.8		x	
Postneonatal	20.2	3.1	3.2		x	

Source: Death certificates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 births. The infant mortality rates in the region are compared to the distribution of rates among the counties which had 20 or more infant deaths in the five-year period (31 counties for total infant deaths, 20 for neonatal deaths, and 10 for postneonatal deaths). A rate is "low" if it is # 6.3 for total infant deaths; # 3.9 for neonatal deaths; # 2.6 for postneonatal deaths; or "high" if it is \$ 9.0 for total infant deaths; \$5.1 for neonatal deaths; \$ 4.4 for postneonatal deaths.

Thirty-one counties had at least 20 infant deaths during the five-year period 1990-1994. Of these, eight counties had an infant mortality rate of 9 per 1,000 births or higher.

HEALTH SERVICES

Table 17. Newborn Hospital Stays by Birthweight and Expected Source of Payment, 1993

	Source of Payment		
	Medical Assistance	Other Pay Sources	All Sources
<u>Average Length of Stay (days)</u>			
Low Birthweight	15	8	11
All Other	2	2	2
<u>Average Charge</u>			
Low Birthweight	\$16,184	\$6,673	\$11,596
All Other	\$940	\$914	\$924

Source: Linked file of birth certificates, hospital discharges and Medical Assistance eligibility data, Wisconsin Center for Health Statistics.

Note: Hospitalizations that occurred out-of-state are not included. Average charge excludes physician charge.

Statewide, 1994 newborn hospital stays averaged 13 days for low birthweight infants, compared with 2 days for other infants. Average hospital costs for a newborn were more than \$15,300 for a low birthweight infant versus about \$1,200 for other infants.

Table 18. Number of Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994

Diagnosis at Discharge (ICD-9-CM Codes)	Source of Payment		
	Medical Assistance	Other Pay Source	All Sources
Neonatal Disorders (760-779)	77	101	178
Acute Respiratory Infection (460-466)	85	62	147
Viral or Other Infection (010-089, 100-139)	25	22	47
Pneumonia (480-486)	100	55	155
Congenital Anomalies (740-759)	31	40	71
Injuries (800-999)	10	10	20
All Other	136	147	283
Total	464	437	901

Source: Infant hospitalization file, data extracted from the Office of Health Care Information hospital inpatient database, Wisconsin Center for Health Statistics.

Note: Includes all hospitalizations of infants less than one year of age, excluding

Neonatal disorders (a wide variety of conditions originating in the perinatal period) and acute respiratory infections together accounted for about one-third of all 1994 infant hospitalizations in Wisconsin.

newborns; counts are based on first-listed diagnosis. Hospitalizations that occurred out-of-state are not included.

Table 19. Number of Preventable Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994

Diagnosis at Discharge (ICD-9-CM Codes)	Source of Payment		All Sources
	Medical Assistance	Other Pay Source	
Bacterial Pneumonia (481 ,482.2, 482.3, 482.9, 483, 485, 486)*	58	27	85
Severe Ear, Nose, Throat Infection (382, 462, 463, 465, 472.1)*	11	10	21
Asthma (493)	10	6	16
Gastroenteritis (558.9)	9	14	23
Dehydration (276.5)	49	41	90
All Other Preventable	26	25	51
Total Preventable	163	123	286

Source: Preventable hospitalization file, data extracted from the Office of Health Care Information hospital inpatient database, Wisconsin Center for Health Statistics.

Note: "Preventable hospitalizations" include all hospitalizations for 28 conditions that have been defined as ambulatory-care-sensitive. Hospitalizations for these conditions are potentially preventable, in that timely and appropriate preventive and primary care can decrease hospitalizations by: (1) preventing the onset of an illness or condition, (2) controlling an acute episodic illness or condition, or (3) managing a chronic disease or condition. Accordingly, the number of preventable hospitalizations can be used to indicate problems with access, availability and adequacy of preventive and primary care. This table includes all hospitalizations for the defined conditions among infants under one year of age. Hospitalizations that occurred out-of-state are not included.

*Bacterial pneumonia excludes cases with secondary diagnosis of sickle cell anemia and patients less than 2 months old. Severe ear, nose and throat infections exclude cases with insertion of myringotomy tubes.

During 1994, there were 9,797 hospitalizations of infants (excluding deliveries) in Wisconsin. Of these, 27 percent (2,681) were for conditions in which a hospital stay is potentially preventable, representing a rate of 39.3 such hospitalizations per 1,000 infants.

Table 20. Participation in Special Health Programs, 1994

Population	Prenatal Care Coordination	WIC
Infants (less than 1 year)	---	2,824
Pregnant Women	418	985
Postpartum Women	---	1,302

Sources: Bureau of Health Care Financing (Prenatal Care Coordination); Wisconsin WIC Program.

Note: The Supplemental Food Program for Women, Infants, and Children (WIC) provides nutritional counseling and supplementary food for pregnant women, infants and young children at risk for poor health outcomes related to nutritional deficiencies. Prenatal Care Coordination (a Medical Assistance program administered by the DHSS Division of Health, Bureau of Health Care Financing) is the coordinated delivery of nonmedical (psychosocial, educational, and other) services to pregnant women. The program attempts to identify each woman's reproductive health needs and focuses on the prevention of poor birth outcomes. High-risk MA recipients are selected for this benefit, based on established criteria to determine high risk.

In December of 1994, 28,704 Wisconsin infants were receiving services from WIC. The number of women participating in WIC included 9,644 pregnant women and 12,830 receiving services during the year after giving birth.